AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

(Para 7) Three main types of airline bridges currently exist for passenger enplaning and deplaning of an aircraft. The three types are an apron drive bridge, a radial bridge, and a fixed pedestal bridge. The apron drive bridge is the most complex due to its rotating and telescoping capabilities, which allow for some freedom in parking location of an aircraft on an apron. The radial bridge and the fixed pedestal bridge require that the aircraft be parked at a specific spot on the apron. The radial bridge is rotated to mate a bridgehead to a passenger door. The fixed ~~pedestel~~ pedestal bridge is the least expensive of the three main types of bridges. The fixed pedestal bridge has a fixed main portion and an adjustable bridgehead. The ~~pedestel~~ pedestal bridge has a bridgehead that retracts when an aircraft is approaching an apron and extends when the aircraft is parked, at which time the bridgehead docks to an aircraft passenger door.

(Para 33) Figure 11B is a perspective view of the integrated operational ground support system [O]of Figure [[10A]] 11A;

(Para 58) The ground support system 10 utilizes GPS cross runaway and tarmac route control. GPS cross runaway refers to the pavement connection between runways that the aircraft 12 crosses when taxiing to and from a terminal tarmac area [[53]] 51. Tarmac route control refers to the position control of the aircraft 54 on the tarmac 51, which may include control of the aircraft 12, as well as other aircraft known in the art. Aircraft positions are monitored by the guidance system 50 inclusive of GPS via ground based antenna arrays 41 that may be in or on tarmac guide strips 55. Final precision guidance is performed via machine vision. The ground based antenna arrays 43 may be used to perform triangulation in determining aircraft position. Control of the aircraft 54 may be

software customized to individualize airport requirements and configurations. The use of GPS cross runaway and tarmac route control in coordination with the guideline 52 enables rapid ground movement and control and precision gate alignment with minimal system implementation cost.

(Para 71) The cargo ingress/egress system 64 aids in the efficient loading and unloading of cargo, service carts, and other packages, containers, and baggage ~~baggages~~ known in the art. When the aircraft 12 is at the gate 18, cargo that is loaded into the cargo containers 100 may be simultaneously loaded and unloaded at the tarmac level 102 of the interface terminal 14 while passengers are entering and exiting the aircraft 12 at the terminal level 82. The cargo containers 100 during the cargo loading process are transported to the terminal interface 14 and may be rotated on a cargo carousel 104 for proper orientation into the aircraft 12. The cargo containers 100 are then conveyed across the terminal interface 14 on conveyors 105 to the cargo elevator 60. The containers 100 are raised on the elevator 60 and are conveyed into the cargo area or lower hold 108 of the aircraft 12. This process is represented by arrows 109. The elevator 60 is shown in the down state in Figure 4 and in the up state in Figure 5.

(Para 75) The water systems [[164]] include a potable water system [[180]], a gray water vacuum evacuation system [[182]] connection, and a brown water vacuum evacuation system [[184]] connection. The air systems [[166]] connections include an air conditioning system [[186]] connector and an engine start air system [[188]] connection.

(Para 76) The fuel system 160, the water systems [[164]] connections, the air systems [[166]] connections, and the brake cooling system [[168]] air supply have associated pumps [[200]], specifically a fuel pump [[202]], a potable water pump [[204]], a gray water vacuum pump [[206]], a brown water vacuum evacuation pump [[208]], an air start pump 210, an air conditioning pump

212, and a brake coolant pump 214. The pumps 200 may be located within the main station 150 or may be located elsewhere in the interface terminal 14 or at some other central location whereby multiple interface terminals may share and have access thereto.

(Para 77) The aircraft 12 is refueled through the high-pressure fuel hydrant 174 that extends to and couples with fueling ports ~~211 (only one is shown)~~ on each side of the aircraft 12 when dual main stations are utilized. Machine vision ensures that the couplers 154 align in their proper orientation while redundant sensors [[220]] ensure that fuel does not begin to flow until coupling is complete. The sensors [[220]] may be in the form of contact limit sensors, which are activated when the clamping mechanism [[221]] is fully actuated. The sensors [[220]] may be backed up by continuity sensors, which indicate when the clamping mechanism is in a fully clamped position. Feedback sensors 230 from the aircraft fuel storage system 232 indicate when fueling is complete and the fuel tanks 234 are properly filled. Relief valves and anti-flow back devices [[229]] may be used to ensure that any system malfunction does not result in spillage. The anti-flow back devices [[229]] may be located at the level or point of entry into the fuel tanks 234 to prevent fuel from being retained in the lower level plumbing or lines (not shown) between the couplers 154 and the fuel tanks of the aircraft. The lower level lines may then be gas inerted after filling is complete.

(Para 78) The fuel hydrant 174 may be double walled and include an inner tube [[233]] with an outer jacket [[235]]. Fuel is supplied through the inner tube [[233]]. The outer jacket [[235]] is used to capture vapor and also serve as a relief flow back system. The feedback sensors 230 are connected to the fueling system 232. The fuel supply architecture of the interface terminal 14 provides for underground fuel storage.

(Para 79) Electrical power and potable water couplers ~~240 and 242, respectively,~~ are mated similar to that of the fuel couplers 174 and [[211]] <u>210</u>. The vacuum couplers [[250]] connect to the holding tank dump tubes 252. The waste tanks 254 may then be vacuumed empty. The air conditioning coupler [[256]] connects to the aircraft air duct system 258. The engine start air coupler [[260]] connects to the aircraft engine start air lines [[262]]. The air couplers ~~256 and 260~~ may be supplied with air from a central shared terminal resource system [[270]], which may be shared by any number of interface terminals. The brake coolant coupler [[272]] is connected to the cooling lines 274 of the aircraft braking system 276. When dynamic field brakes are utilized heat dissipation within the braking system 276 may be accommodated through other techniques known in the art rather than through the use of the brake coolant 278.

(Para 80) The main station 150, via the station controller [[170]] <u>150</u>, adjusts the amount of fluids, air, and electrical power supplied to and pumped from the aircraft 12. A control panel operator may monitor the main station 150 and shut down any of the sub-systems 151 that are operating inappropriately or the main controller [[170]] <u>150</u> may in and of itself shut down one or more of the sub-systems 151. Although a single main station is shown for a single side of the aircraft 12, any number of main stations may be utilized. The main controller [[170]] <u>150</u> may be microprocessor based, such as a computer having a central processing unit, have memory (RAM and/or ROM), and associated input and output buses. The main controller [[170]] <u>150</u> may be an application-specific integrated circuit or be formed of other logic devices known in the art.

(Para 89) The health and maintenance monitoring system 72 aids in the offboard monitoring and checking of aircraft systems. The health monitoring system 72 facilitates the exchange of data between ground maintenance and support and the aircraft 12. This allows for the evolution of real

time structural and aircraft system monitoring and maintenance. Structural stress cycles and intensity may be tracked. The health monitoring system 72 allows fleet maintenance to predict when maintenance is needed and perform the appropriate maintenance ahead of schedule rather than to react to a malfunction and cause undesired downtime to perform the needed maintenance and component replacement. The health monitoring system 72 includes the down-load/up-load interface coupler 284 and other electronics and electrical control and monitoring devices, such as gauges, switches, video screens, audio devices, and other controls and monitoring tools known in the art. These controls and monitoring tools may be located within the main station 150, elsewhere in the interface terminal 14, or offboard the interface terminal 14 at a central monitoring station~~, such as within the central shared terminal resource system 270~~. The health monitoring system 72 reduces inspection costs while providing a broader margin of safety.

(Para 90) The interface terminal 14 is extendable to the aircraft 12 and as such the service ~~conduit 173~~ <u>conduits</u> are also extendable via the service conduit extension and the take-up reels 330. The interface terminal 14, as shown, includes a first support column 332 and a second support column 334. The first support column 332 is stationary and the second support column 334 is mobile. The second support column 334 and the main station 150 are on wheels 336 and may be extended away from the gate towards the aircraft 12. The main station 150 may control extension of the interface terminal 14. The service conduit extension 173 may be telescoping and be extended to or retracted from the aircraft 12.

(Para 93) The motor wheel assembly 350 may be staged over the guide-strip 52 by the GPS system 42 and thus allows the guide strip 52 and the ground based radio antennae arrays to precisely guide the aircraft 12 over a prescribed directed and controlled route to and from the interface

terminal 14. The motor wheel assembly 350 may be controlled by a centralized computer ground control system, such as within the central resource system [[270]], of an airport to assure proper separation of ground traffic and significantly enhance the efficiency, safety and speed of ground mobility. The motor wheel assembly 350 may be used instead of aircraft primary engines, when taxiing on the tarmac, which reduces fuel consumption. The use of the motor wheel assembly 350 also eliminates the need for ground personnel to guide the aircraft 12.

(Para 121) Referring now to Figure 18, a perspective view of a fuel hydrant supply system 720 in accordance with yet another embodiment of the present invention is shown. The fuel hydrant supply system 720, as shown, is a four-point hydrant system, which includes two pair of hydrants 722 that extend from the tarmac 724 and couple to the aircraft 726. Each of the hydrants 722 may also have an inner supply tube ~~(not shown, but similar to inner tube 233)~~ and an outer jacket 728 for pulling fumes away from the aircraft 726. The hydrants 722 may be coupled on a side of the aircraft 726 inboard of a wing to body joint 730, as shown, or may be couple to other locations on the aircraft 726.

(Para 130) In operation, inboard passengers ~~drops-off~~ drop off their ~~baggages~~ baggage at the baggage drop-off terminal 902. The ~~baggages are~~ baggage is scanned and inspected and then transferred, when deemed safe, to the airport terminal 904. The passengers upon dropping off their bags travel in their vehicles or via shuttle to the airport terminal 904. This is performed in reverse for outboard passenger traffic. The remote baggage handling system 900 relieves airport congestion, increases available airport terminal space, and when applied to a traditional airport terminal is a non-intrusive modification.